

DETAILED ACTION

***Examiner's Amendment***

1. During telephone conversation with J. Lavar Oldham (Reg. No. 53,409), Attorney for the Applicants on October 20, 2009 authorizations for this Examiner's amendment was given in a telephone interview.

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicants, an amendment may be filed as provided by 37 CFR1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

The application has been amended as follows:

*In the claims,*

1. (Proposed Amendment) A computer ~~implemented~~ system including one or more processors and computer memory, for managing the access of system resources in a database comprising the following computer executable components implemented using the one or more processors and computer memory:

a lock manager wherein the lock manager:

acquires a parent lock on a parent resource and one or more child locks on child resource(s) of the parent resource of a database, the locks preventing other applications from at least one of modifying data or using data which may not be accurate;

stores a reference count of the one or more child locks within the parent lock such that as each child lock is released, the reference count decrements by a value of one, and

releases the parent lock upon release of all child locks associated therewith, wherein the parent lock is released upon the reference count attainment of a zero value, such that data in the previously locked resources can be at least one of modified or used by another application.

2. (Cancelled)

12. (Proposed Amendment) A computer implemented method for controlling locks to manage access to system resources in a database the method comprising one or more computer processors performing the following:

defining a parent-child relation ship among a plurality of locks, on resources in a database, in a lock hierarchy;

reference counting one or more child locks associated with a parent lock, such that a parent lock maintains a count reference of respective child locks associated therewith and as each child lock is released, the reference count decrements by a value of one, the locks preventing other applications from at least one of modifying data or using data which may not be accurate; and,

releasing a parent lock upon a release of all the respective child locks associated therewith, wherein the parent lock is released upon the reference count attainment of a zero value, such that data in the previously locked resources can be at least one of modified or used by another application.

20. (Cancelled)

21. (Proposed Amendment) A computer implemented method for controlling locks to manage access to system resources in a database, the method comprising one or more computer processors performing the following:

counting one or more child locks on resources in a database associated with a parent lock to obtain a reference count of the child locks associated therewith, the locks

preventing other applications from at least one of modifying data or using data which may not be accurate;

storing a reference count of the one or more child locks within the parent lock such that as each child lock is released, the reference count decrements by a value of one;

releasing a child lock;

decrementing the reference count by a value of one; and

releasing the parent lock upon the reference count reaching a zero value, such that data in the previously locked resources can be at least one of modified or used by another application.

26. (Proposed Amendment) A computer implemented database lock including one or more processors and computer memory, managing access to system resources comprising:

a computer executable lock manager, implemented using the one or more processors and computer memory, wherein the computer executable lock manager:

acquires at least a parent lock and one or more child locks on a database resource, the locks preventing other applications from at least one of modifying data or using data which may not be accurate;

creates within the parent lock a reference count of the child lock, the reference count is decremented by one on the release of each child lock;

stores a reference count of the one or more child locks within the parent lock such that as each child lock is released, the reference count decrements by a value of one and

releases the parent lock upon the reference count attainment of a zero value, such that data in the previously locked resources can be at least one of modified or used by another application.

***Allowable Subject Matter***

2. Claims 1, 3, 5 – 18, 21, 23 – 24 and 26 - 30 are allowed over the prior art of record.

3. The following is an examiner's statement of reasons for allowance:

The reasons for allowance are based on applicant's persuasive remarks of July 11, 2009 (page 11 with emphasis on paragraphs 1 and 2); in addition, the Examiner's amendment "wherein the parent lock is released upon the reference count attainment of a zero value" as shown in the independent claims, is to further clarify the condition on which the parent lock is released.

The dependent claims, being definite, further limiting, and fully enabled by the specification are also allowed.

4. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

***Conclusion***

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to FRED I. EHICHIOYA whose telephone number is (571)272-4034. The examiner can normally be reached on M - F 8:00 AM to 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Pierre M. Vital can be reached on 571-272-4215. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Fred I. Ehichioya/  
Primary Examiner, Art Unit 2156